**DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 13.28

# WELDING INSPECTION REPORT

**Resident Engineer:** Pursell, Gary
**Address:** 333 Burma Road
**City:** Oakland, CA 94607

**Report No:** WIR-015079
**Date Inspected:** 23-Jun-2010

**Project Name:** SAS Superstructure
**Prime Contractor:** American Bridge/Fluor Enterprises, a JV
**Contractor:** Oregon Iron Works Clackamas, Or.

**OSM Arrival Time:** 1000
**OSM Departure Time:** 1830
**Location:** Clackamas, OR

**CWI Name:** M. Gregson, J. Salazar, G. Mundt

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|---|---|---|---|---|---|---|---|
| **CWI Present:** | ☑ Yes | ☐ No | | | | | |
| **Inspected CWI report:** | ☐ Yes | ☑ No | ☐ N/A | **Rod Oven in Use:** | ☐ Yes | ☐ No | ☑ N/A |
| **Electrode to specification:** | ☑ Yes | ☐ No | ☐ N/A | **Weld Procedures Followed:** | ☑ Yes | ☐ No | ☐ N/A |
| **Qualified Welders:** | ☑ Yes | ☐ No | ☐ N/A | **Verified Joint Fit-up:** | ☑ Yes | ☐ No | ☐ N/A |
| **Approved Drawings:** | ☑ Yes | ☐ No | ☐ N/A | **Approved WPS:** | ☑ Yes | ☐ No | ☐ N/A |
| | | | | **Delayed / Cancelled:** | ☐ Yes | ☑ No | ☐ N/A |

**Bridge No:** 34-0006
**Component:** Hinge K Pipe Beams

**Summary of Items Observed:**

The Quality Assurance Inspector Sean Vance arrived on site at Oregon Iron Works, Inc (OIW) in Clackamas, OR, to randomly observe the in process welding of the Hinge K Pipe Beam assemblies. The QA Inspector arrived on site to randomly observe the OIW Quality Control (QC) Inspectors in process and completed visual and nondestructive testing. Upon the arrival of the QA Inspector the following observations were made:

Hinge-K Pipe Beam Assembly 101A-3:
The QA Inspector observed an OIW helper grinding on the previously completed repairs (WRR # 06 and # 07), Indications # 3 and # 4, per the completed Ultrasonic Examination Report # 2244-10-UT-08.
The QA Inspector observed that this weld joint was designated as # W4-01, Fuse 120A-3 to Forging 102A-3 and that the grinding was being performed from the exterior side of the weld joint, to grind the repairs flush.
The QA Inspector later observed that the above mentioned grinding had been completed and OIW Lead QC Inspector Mike Gregson was in process of performing informal Ultrasonic Testing on the repairs. The QA Inspector observed that the testing was being performed from the interior or Face B side of the weld joint, from both axis. QC Inspector Gregson explained that he had found 1 rejectable indication on Repair # 4 and 2 recordable indications on Repair # 3 and explained that the rejectable indication was a Class A (Indication rating of +1 Db), per AWS D1.5 UT Acceptance-Rejection Criteria-Tensile Stress, Table 6.3.QC Inspector Gregson explained that the reject has a length of 35 mm, depth of 54 mm and that the two recordable indications were rated as Class B and C indications (+ 3 Db and + 4 Db), per Table 6.3. QC Inspector Gregson explained that the testing was performed in accordance to OIW testing procedure # NP-2244-(13)-01, utilizing a 2.25 MHz transducer attached to a 70 degree Lucite wedge.
QC Inspector Gregson explained that the testing will be performed from the exterior or Face B side of the weld

joint on swing shift.
The QA Inspector was present on this swing shift and observed OIW QC Inspector Gary Mundt performing the UT examination on the above mentioned repairs from Face A.
The QA Inspector observed that the testing was being performed utilizing a 2.25 MHz transducer attached to a 70 degree testing angle.
QC Inspector Mundt later explained the testing was complete, utilizing a 60 and 70 degree testing angle, from Face A and no rejectable or recordable indications were found. The QA Inspector then performed 100 % preliminary UT on the above mentioned repairs and verified the rejectable and recordable indications, which were previously found by QC Inspector Gregson. The QA Inspector performed the preliminary testing in the same manner as mentioned above.

Material, Equipment, and Labor Tracking (MELT)
QA Inspector Sean Vance performed a verification of material, personnel and equipment involved with the project.
The QA Inspector observed at Oregon Iron Works Clackamas: 3 OIW production personnel and 2 QC Inspectors.

**Summary of Conversations:**

The QA Inspector noted that this Repair # 4, WRR # 10-07 will be a third time repair, which will require a Critical Weld Repair submittal and approval by OIW, prior to performing the excavation and welding.


**Comments**

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

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| **Inspected By:** | Vance,Sean | Quality Assurance Inspector |
| **Reviewed By:** | Adame,Joe | QA Reviewer |